**State Transition and Turing Machine Answers**

|  |  |  |  |
| --- | --- | --- | --- |
| **State** | **Current value** | **New Value** | **New State** |
| START | - | - | A |
| A | 0 | 1 | A |
| A | 1 | 1 | B |
| B | 0 | 0 | C |
| B | 1 | 0 | D |
| C | 0 | 0 | D |
| C | 1 | 1 | C |
| D | 0 | 1 | C |
| D | 1 | 1 | B |

1. Σ={a,b,c,△}
2. A’s change to c , b remains as b and c changes to b
3. No, because 1 is not a valid input for state C in this TM.
4. The machine will terminate in state C
5. 